

App. Serial No. 10/539,383
Docket No.: NL021429

In the Claims:

Please amend claims 1-8 as indicated below. This listing of claims replaces all prior versions.

1. (Currently Amended) A power amplifier comprising:

a first stage including a signal amplification transistor for amplifying an input signal, the signal amplification transistor having a control electrode responsive to a bias current, and

a first bias circuit including a controlled current source for converting a gain control voltage to the bias current providing a bias current to the first stage, the first bias circuit comprising a controlled current source, and the first bias circuit being arranged for feeding its bias current to a control electrode of a signal amplification transistor of the first stage.

2. (Currently Amended) The power amplifier according to claim 1, wherein at least one the first bias circuit includes comprises a non-linear voltage/current converter for converting the gain control voltage to the bias current, preferably the non-linear voltage/current converter coupled with to a current mirror for providing the bias current to the control electrode.

3. (Currently Amended) The power amplifier according to claim 2, wherein the non-linear voltage/current converter includes comprises at least one differential stage coupled to a reference voltage, preferably two differential stages, each coupled to a respective reference voltage.

4. (Currently Amended) The power amplifier according to claim 1, A power amplifier comprising:

a first stage for amplifying an input signal, and

a first bias circuit for providing a bias current to the first stage,

the first bias circuit including a controlled current source, and the first bias circuit being

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arranged for feeding its bias current to a control electrode of a signal amplification transistor of the first stage, wherein at least one bias circuit comprises two distinct voltage/current converters for converting two distinct gain control voltages.

5. (Currently Amended) The power amplifier according to claim 1, wherein the first bias circuit further includes ~~comprises~~ bias voltage means for additionally providing a bias voltage to the first stage.

6. (Currently Amended) ~~The power amplifier according to claim 1, A power amplifier comprising:~~

a first stage for amplifying an input signal, and

a first bias circuit for providing a bias current to the first stage,

the first bias circuit including a controlled current source, and the first bias circuit being arranged for feeding its bias current to a control electrode of a signal amplification transistor of the first stage, wherein in the first bias circuit an additional transistor is coupled between the voltage/current converter and the controlled current source so as to compensate for the DC current gain of the signal amplification transistor.

7. (Currently Amended) The power amplifier according to claim 1, further comprising:

a second stage for amplifying a signal output by the first stage; and

a second bias circuit for providing a second stage bias current to the second stage; and

optionally a third stage for amplifying a signal output by the second stage; and

an associated third bias circuit for providing a third stage bias current to the third stage.

8. (Currently Amended) The power amplifier according to claim 1, wherein the power amplifier is arranged for amplifying high frequency signals.

9. (Original) A device provided with a power amplifier according to claim 1.